# WAIALUA FISHPONDS

**~Island of Molokai~**

**Many different kinds of fishponds, in various conditions, can be found on Molokai. Restoration requires backbreaking work to rebuild walls and restore circulation.**

*A*ncient Hawaiian fishponds are amazing aquacultural structures found throughout the islands that played a prominent role in the prehistory of our State. Fishponds were part of the Hawaiian *ahupuaa* (land division) system of sustainable management of land and water resources for the benefit of society. They include man-made and natural enclosures of water in which fish and other aquatic organisms are raised and harvested. It is estimated that, at one time, fishponds produced over two million pounds of fish annually. This locally-developed technology was tremendously productive for the ancient Hawaiians and it can be productive for the State once again.

Molokai has the greatest number of ancient Hawaiian coastal fishponds in the State. Approximately 60 ponds could be restored to productive use that range in size from half an acre to over 50 acres. However, many are in disrepair and few are being adequately cared for to sustain them for future generations. The result has been a steady deterioration and destruction of these valuable resources through storms, upland erosion and siltation, mangrove encroachment, vandalism and neglect.

The Waialua Fishpond Project is an attempt to demonstrate the feasibility of community-based restoration of two State-owned fishponds (Honouliwai and Kahinapohaku) at Waialua on Molokai's eastern shore. The intent is to move towards establishment of an ongoing Statewide program to facilitate State and private pond revitalization.

Successful implementation of this novel public/private partnership approach to coastal resource management could lead to a long-term effort by the people of Molokai to restore other State and private fishponds for subsistence, as well as commercial use. What is learned from these efforts could lead to reconstruction of other historical ponds on Kauai, Maui, the Big Island and Oahu.

Many ponds have massive stone walls which are partially constructed and visible at high tide, while others are represented by an outline of submerged stones called a "footprint" at low tide. In some cases, large *pohaku* (stones) and *iliili* (small stones, pebbles) are scattered in the fishpond basin and outside the footprint. In other cases, large stones have been carried off-site, and new material will be needed to reconstruct the wall.

Some ponds have walls that are badly infested with mangroves which will need to be cut back or pulled out. With these ponds, the basin is heavily silted, which will make pond operation in the old style difficult, due to

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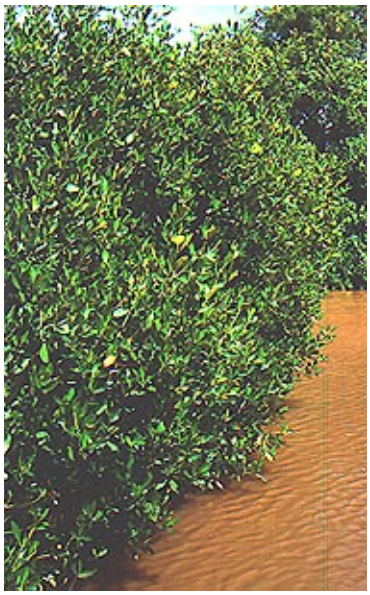

**Mangrove destroys fishpond walls and is very difficult to eradicate. Its dense vegetation screens and collects dust in the air and deposits the particles in ponds encouraging siltation. Some ponds on Molokai are very badly infested.**

limited water depth. Still other ponds are near sandy beaches or have endangered waterbird habitat, so obtaining the necessary permits will be extremely difficult.

Major obstacles to community-based fishpond restoration on Molokai can be briefly described as follows:

■ Difficulty in obtaining permits for fishpond restoration, particularly due to the complexity, time and cost involved. This includes agencies requiring restrictive permit conditions, such as limiting the use of motorized equipment, requiring extensive water quality monitoring, and restricting restoration work to low tide.

■ Limited community capabilities to monitor environmental impacts, assist in hands-on reconstruction and provide ongoing maintenance, e.g., availability and storage of special equipment, instruments, supplies, extra stones, etc.

■ Lack of a clearly defined process to issue leases for Hawaiian fishponds to *ohana* (family) and community groups.

■ Limited community means for providing stocking materials to pond operators, e.g., fish, seaweed, invertebrates, other seed materials.

■ Lack of community-based mechanisms to fairly select pond *ohana* groups, provide oversight to pond reconstruction and operation and fund various environmental, survey, coring, public notice and appraisal requirements.

■ Lack of incentives to encourage and motivate private fishpond owners and the community to restore ponds. Traditional restoration techniques are extremely arduous work and require large groups of people to put “sweat equity” into the reconstruction.

■ Limited documentation of and training opportunities in fishpond restoration techniques to allow the next generation of pond operators to be educated and preserve the traditional knowledge for future generations.

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**Once pond walls are repaired, water quality in the pond must be improved and carefully monitored before the pond can be stocked.**

**DLNR's Sustainability Hotspot Team, consisting of:**

**John Corbin - Aquaculture Development Program, Oahu, 587-0030;**
Boyd Dixon - Historic Preservation;
Richard Fassler - Aquaculture Development Program;
Jamie Mangca - Conservation and Resources Enforcement;
Phil Ohta - Land Division;
William Puleloa - Aquatic Resources;

is responsible for the future management of this cultural and natural resource.

**DLNR's Future Vision and How to Attain It**

The department's long-term vision for restoring these ancient Hawaiian fishponds through community-originated initiatives is to:

■ assist in the community-based restoration of Honouliwai Fishtrap and Kahinapohaku Fishpond to demonstrate the program's approach and viability;

■ establish a well-defined, streamlined facilitated permit process to allow individual and community groups to quickly and inexpensively restore coastal Hawaiian fishponds;

■ prepare and publish a permit acquisition and compliance guide for Hawaiian fishpond restoration, including a description of a simplified permit process and recommendations for additional permit streamlining;

■ establish a self-sustaining, community-based model organization to coordinate and implement the fishpond restoration program for Molokai. This model organization will address such key areas as: organization and pond selection; technical support; marketing support, research and training, problem resolution and future planning, and grant development and funding assistance;

■ establish model infrastructure to support long-term restoration and operation of coastal fishponds on Molokai, including a baseyard to store stones, materials, supplies and equipment, and a hatchery to provide seedstock to pond operators;

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**Restoring a fishpond and returning it to commercial feasibility requires a supportive community, infrastructure and a streamlined permit process. Public support is already very strong, DLNR is working toward improving the other necessary elements.**

■ establish a self-sustaining, community-based program on Molokai to restore both State and privately-owned coastal Hawaiian fishponds that leads toward a State effort for fishpond revitalization in other communities;

■ establish in the Aquaculture Development Program (ADP) a Hawaiian Fishpond Revitalization Program (HFRP) to facilitate and support community-originated restoration efforts Statewide;

■ cooperate with the Oceanic Institute to complete planning and design and begin construction with Federal funds of a multi-purpose hatchery on Molokai to supply seedstock to fishpond operators;

■ repeat the community-based approach to fishpond restoration on other islands.

**DLNR's vision for the future can be realized with new funding of $75,000 in combination with in-kind support to form a Hawaiian Fishpond Revitalization Program (HFRP).** Additional funding would include:

■ $750,000 in federal funds currently available for the planning, design and construction of a hatchery;

■ an in-kind land exchange by the State to establish baseyard infrastructure for materials storage.

Fishponds are truly historical and cultural treasures that should be cared for and preserved for the future. They can serve as living examples of the Hawaiian approach to sustainable resource management and use that is so relevant to today's critical resource issues.


**DLNR's Team for Molokai, (left, top to bottom) Puleloa, Dixon, (center, l-r) Fassler, Corbin, (right) Mangca, Ohta.**